DOCUMENT RESUME

ED 209 235 SP 019 092

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TITLE Linking Teacher Behavior with Learning Style. Tucson Model for Effective Staff Development.
INSTITUTION Arizona Univ., Tucson. Coll. of Education.
SPONS AGENCY Department of Education, Washington, D.C.
PUB DATE Nov 81
NOTE 18p.; Paper presented to the National Council of States on Inservice Education (New Orleans, LA, November 18, 1981). Best copy available.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Bilingual Education; *Classroom Desegregation; Classroom Environment; Cognitive Style; *Educational Strategies; *Inservice Teacher Education; *Institutes (Training Programs); Mainstreaming; Motivation Techniques; Multicultural Education; Staff Development; *Student Teacher Relationship; Summer Programs; *Teacher Behavior

ABSTRACT

The University of Arizona College of Education and the Tucson (Arizona) Unified School District have cooperatively developed a staff development program that addresses the needs of teachers who are implementing bilingual and multicultural curricula. The Tucson Model for Effective Staff Development is based on the belief that successful integration of diverse students begins with the belief systems of the educator. A three-week summer training institute provided opportunities for workshop activities and feedback through the initial daily meeting of all participating staff. School-centered special interest projects met in the afternoons and were the responsibility of the school principals. A followup program, consisting of six Saturday workshops, is planned to reinforce the skills taught in the summer institute. An illustration of two components of the model are the workshops on learning and teaching styles. The rationale behind the workshops is that, if teaching is interaction, then, to improve teaching, the interaction must change. Teachers should understand interactions that can result from supportive behavior patterns such as proximity, listening, touching, and asking a higher level question. Another useful tool for teachers is the Hill Model of Cognitive Style Mapping, which is an inventory designed to personalize instruction for students having difficulty in achieving academic success. (FG)

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LINKING TEACHER BEHAVIOR WITH LEARNING STYLE

Tucson Model
for
Effective Staff Development

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THE DESEGREGATION INSTITUTE

The University of Arizona
in cooperation with
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Tucson, Arizona 85721

National Council of State on Inservice Education
18 November 1981
New Orleans, Louisiana

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The Race Desegreation Training Institute was funded under Title IV of the Civil Rights Act by the United States Department of Education.

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LINKING TEACHING BEHAVIORS AND LEARNING STYLE
TO MAKE A DIFFERENCE

The University of Arizona College of Education and Tucson Unified School District have cooperatively developed a staff development program that has proven effective in delivering professional growth activities for a range of teacher identified needs. In 1980-81, the staff development model successfully delivered programs to school personnel in fourteen newly desegregated schools, Phase I and Phase II. In 1981-82, the model was adapted to address needs of teachers in Phase III schools who were implementing the educational specifications of a bilingual and multicultural curriculum. The social and academic integration of Tucson schools embodies a cultural awareness and sensitivity component. The multiethnic, multicultural heritage is preserved in development of applied bilingual and crosscultural communication skills. All components of the model were designed to increase staff sensitivity to linguistic and cultural varieties and assist with operationalizing successful instructional strategies. The Tucson Model has been effectively replicated to address the unique staff development needs of certified and classified personnel. The model has the potential for use in staff development to implement the least restrictive environment (integrating handicapped students in regular classrooms) as well as career education and other relevant topics.

The Tucson Model for Effective Staff Development is based on the belief that successful integration begins in the head of the educator. One's beliefs, perceptions and expectations about one's self and others is where instruction and development of curriculum materials actually begin. Beliefs about how students perform, how a class should be organized and one's ability to act upon these perceptions and beliefs depends a great deal upon what a teacher <u>is</u> and his/her competence as an educator. Knowing that students are poor, Black, handicapped, Native American or Mexican American is helpful, but it does not tell how capable each student is or how to interact in the classroom.

Based on this rationale, components of the model were designed to bring about the change process for students and educators. Curriculum materials, classroom procedures and teacher behaviors affect this change process. What a teacher (aide, secretary, administrator) <u>does</u> make a difference! To accomplish change in attitudes and behavior requires time. If that change is to be maintained, a system for reinforcement is necessary. Such a support system is provided in the model. Year-long staff development activities focus on building and individual teacher needs.

Efforts toward change are enhanced through social support and intellectual stimulation from peers. Teacher intervisitation, sharing and teaming support efforts for change. Like-minded professionals who have developed a sense of trust form a highly effective unit of change. The Follow-Up program fosters the development of this trust relationship and a positive school climate.

The model is designed with a three-week summer Institute plus a year-long Follow-Up program. The training Institute addressed both common and individual needs of teachers and aides in the Phase III schools. The organization of the Institute provided opportunities for coordination of workshop activities and feedback through the initial meeting daily, the CORE. Content of the individual workshops demonstrated an interrelatedness of factors that are found in effective schools. This pattern of linkage facilitated the integration of concepts relevant to attitudes, perceptions and knowledge about self and others.

The structure of the summer Institute included:

1) The CORE, a large group presentation daily, focused on developing positive school climate and dealing with teacher stress.

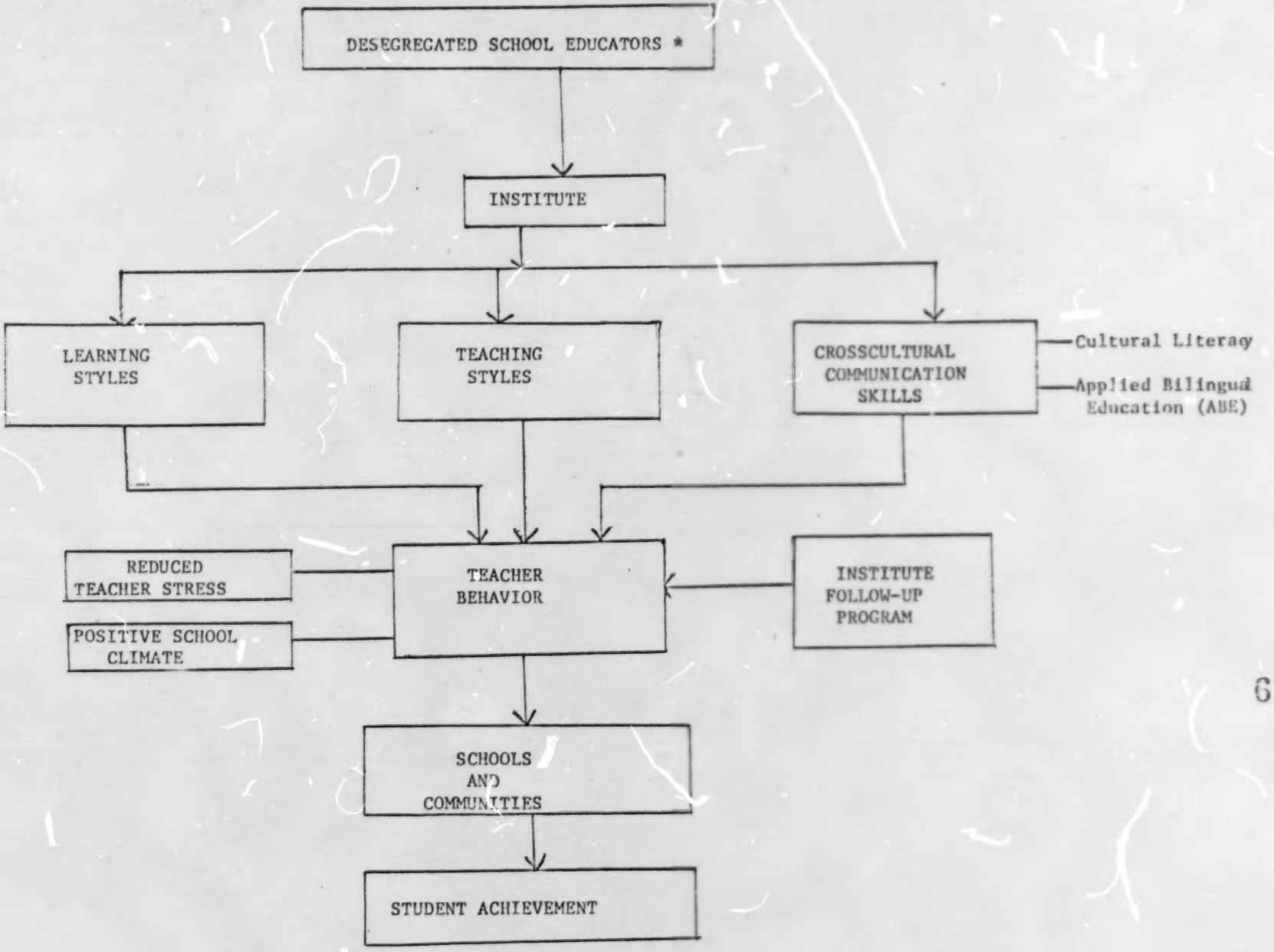
2) The workshops - Learning Styles, Teaching Styles, and Crosscultural Communication Workshop had two strands: Cultural Literacy and Applied Bilingual Education. With the four workshops, participants met three learning experiences each day. Each workshop met a total of 11 hours.

3) The special interest projects met in the afternoon. The faculties of the school participating were encouraged to meet together as a school unit. The principles of each school were responsible for these meetings.

Teachers and aides from the Phase III schools will participate in the year-long Follow-Up program in six Saturday workshops that are planned to reinforce the skills taught in the summer Institute. These workshops will serve as problem solving vehicles and give in-depth knowledge of workshop content.

The activities of the Follow-Up program will be generated by the experiences of the summer and concerns identified by the faculty and staff members of the four schools.

The rationale for the Institute and Follow-Up recognized the controlling influence of beliefs and perceptions in teaching style and content. Emphasis in each of the specific activities maintained the focus on these critical factors. Because of the important link between student learning style and teacher behavior, aspects of these workshops will be presented as an illustration of two components of the Model for Effective Staff Development.



SCHEMATIC MODEL OF SCHOOL DESEGREGATION TRAINING INSTITUTE

* Varied levels of skills

TEACHER BEHAVIORS THAT MAKE A DIFFERENCE

Classroom communication and interpersonal relationship skills address the basis of teaching -- interaction with others in a situation designed for learning. How a teacher uses verbal and nonverbal communication skills is critical to the amount of learning that can take place in the classroom. If teaching is interaction, then for teaching to improve the interaction must change.

Classroom interaction involves the teacher's behavior, student's behavior and environmental factors. Effective instruction is a result of these factors and the teaching pattern is strongly influenced by the perceptions and expectations of the participants.

Extensive research emphasizes that teacher perceptions of student ability dramatically influence the quality and degree of interaction with students. Teachers give more supportive and motivating interaction to those perceived as high achievers. The goal is to internalize the teaching behaviors and distribute them equitably with all students. Teacher behaviors that aid in changing perceptions are techniques teachers use daily. The problem is the discrepancy in how they are used.

To interact in a nondiscriminatory manner requires a mind set and the knowledge of what to do to counter one's natural tendency for response. This is where components of the interaction model and research verified variables link to bridge the gap between what we know and what we do.

Teacher-student and student-student interactions which focus on effective strategies need to be practiced and classroom activities need to be structured to incorporate these patterns into learning experiences. The affect on the learning environment can be positive if programs are systematically developed. Organization begins with the educator. Supportive strategies which motivate students (and faculty) are readily adapted to all teaching-learning settings and equally adaptable to students' learning styles.

The teacher behavior of proximity is an example. Proximity as a classroom nonverbal interaction is defined as moving within arms distance of a person. The teacher patternof leaning toward a student, in attentive listening, or to help the student with academics builds the student awareness that "it's safe to have the teacher near." Teachers who monitor classrooms increase student on-task behaviors. Soar (1972) noted classrooms in which independent seatwork was not monitored were ineffective, only 8% of the students

Teacher Behaviors That Make a Difference (continued)

were on-task, whereas, 80% were recorded in monitored small group work. Moving about the classroom enables the teacher to clarify directions and give feedback to students, thus providing individual help, opportunities for response and the knowledge one can progress to the next step.

Teachers need to consciously move into all the "territories" of the room. Their availability to all students becomes known and accepted. This builds a student awareness that "my teacher will help me." Building proximity into one's pattern of their classroom structure is supportive of student achievement. The teacher can utilize proximity or monitoring whether the class is organized as small groups, cooperative formats, peer tutoring or feedback lecture. In fact, structuring the class to take maximum advantage of this factor can involve other teaching behaviors that motivate students. (Munroe, 1978)

Touching in a friendly supportive manner is related to proxemics and builds on the student's perception of being of worth. "My teacher likes me." Sounds a bit corny, but it's true. Each of us needs to know we are loved. Touching is a form of communication. Touching is a particularly supportive interaction with handicapped as well as nonhandicapped students. Teachers who need to work up to personal contact may initially touch a student with an object such as a paper or book. However, to be positive, this contact may need to be accompanied by eye contact and verbal encouragement. To be an effective reinforcer, the physical nearness and touch needs to be viewed as a reward.

The goal of the behavior delving is to help all students respond to questions by providing additional information to them. This teaching pattern builds for the student the perceptions that "my teacher is assisting me." "He believes I can answer." Herein lies the self-fulfilling prophecy. (TESA, 1980)

Teachers interact with students perceived as low achievers less frequently than with students perceived as high achievers. To overcome this tendency, teachers work to respond equitably to all students. When teachers question low achievers, they are given "easy" questions and quickly passed by if there is any hesitancy to answer. These actions need to be replaced with a recognition that the student is able. The tendency to give clues, to rephrase questions or to delve for answers is more frequently given the perceived high achievers. If this same behavior was afforded the low achiever, the impact on the self-concept would allow them to believe in themselves as modeled by others who believe in them. Implicit in this skill is the teacher's knowledge of the student's best style or mode of learning, be it visual, auditory, kinesthetic, or some combination of these.

EXAMPLES OF INTERACTIONS
for
SELECTED BEHAVIORS

TEACHER PATTERN	DEFINITION/TIP	EXAMPLE
Proximity	Teacher moves within arm's distance of student on a non-threatening manner; verbal or nonverbal exchange can take place. Build on a sense of belonging; the total classroom is involved.	Teacher pauses by student while monitoring seatwork. Teacher sits in on small group discussion. Stop, look at deskwork, provide feedback. Arrange classroom to make monitoring all areas of the room. Move teacher's desk to different locations in the room. Utilize cooperative group activities to affect student-student interactions.
Delving 9	Rephrase, give clue or provide additional information to aid student answer or response; this can be verbal or nonverbal. Technique to promote student response. Break down the concept into its parts. Use synonyms, analogies for connections. Provide lists, outlines, format for students.	- give first notes of song - have student complete sentence - demonstrate - use encouraging tone to relay that student is able - explain a word - ask a different but related question - identify a symbol - "Name 3 fruits -- which ones are shaped like marbles?" - "Name the element whose symbol is P?" - "Since you think _____, please expand on why it's important." - "What parts of the film were exciting?" - "What parts of the film were frightening?"

EXAMPLES OF INTERACTION
for
SELECTED BEHAVIORS

TEACHER PATTERN	DEFINITION/TIP	EXAMPLE
Listening (85% are visual learners	Stop what you are doing; give eye contact, rephrase what student said. Demonstrate patience (latency) to allow student to respond. Indicate that the student responding has been heard (feedback) (e.g., write response on the board). Don't be obsessed with right answer and fail to hear reasoning, logic and correctness. Indicate you realize interruption "excuse me," provide contact, then invite to continue (courtesy). Be alert to what is not said through body language, etc.; nod, smile, raise eyebrows.	"Right, Robin, I'll write that down." "O.K. Now read the next section a little bit slower, please." - Use what student has said to initiate discussion. - Ask student to expand on response. - Encourage peers to ask questions of speaker. - Provide listening activities to enhance skills. - Ask students to reward directions.
Touching	Contact in a friendly manner: touch of shoulder, arm, elbow, hand. Relate touch as reinforcement for learning performance. Be prepared to be touched; don't reject contact Do not touch in anger; don't assoicate touch with slap or push. Build trust; let contact be sincere and earned (both your touch and the receipt of touch). Handicapped expect touch. If touch is misinterpreted, stop class and explain that the touch was to support a good job. Don't let misunderstanding mushroom purpose out of context.	Hold hand or finger; trace shape. Place hand on arm or shoulder, gently. Pat on shoulder or elbow accompanied with "good job." Communicate interruption, but that you will come back. Direct the blind by holding their elbow. Obtain attention. Utilize handshake and courtesy contact.

EXAMPLES OF INTERACTIONS
for
SELECTED BEHAVIORS

TEACHER PATTERN	DEFINITION/TIP	EXAMPLE
Higher Level Question	Knowledge questions require recall of information. Intellectual abilities require use of that information; application. Questions from more than one level of taxonomy. Ask to elaborate, give answer, evidence logic, make inference, draw conclusion, have an opinion, make generalization, organize information, interpret, explain non-literal information. Anyone can deal with higher level questions if the content is appropriate. Employ latency and delving skills to set a climate for thinking, not merely return of facts; summarize communication. Model openness to different answers. Expect student to think; relay this expectation. Develop a variety of questions in advance of interaction, write them out on cards, practice first by recognizing inconsistencies. Putting elements together to form a whole, explain steps in logical sequence, in time sequence. Think creatively. Model acceptance of responses.	"If you get lost at the park, what would you do?" "What could we do at school to conserve energy?" "How would you change the screenplay to reflect current scientific theories?" "How do the animals help mankind?" Predict the outcome of the elections. If the bond issues fail, what will be the first area to suffer? Find the errors. . . Make up rules for a new games. Explain the relationship. Identify. . . Match. . . Show a graph . . . "In what order would you do the following to arrive on time for the airplane?" Suppose you were on a desert island; what one thing would you take?

Teacher Behaviors That Make a Difference (continued)

Knowing how a student prefers to make meaning (learn) is a vital tool for educators. Learning styles and their implementation in the classroom directs teaching activities to truly be individualized. The use of a learning styles inventory provides information to students, parents and teachers regarding one's learning preferences in a non-judgmental climate. The Hill Model of Cognitive Style Mapping has been adapted for use. Designed to personalize instruction, this inventory is valuable with students who are experiencing some difficulty in achieving academic success.

The Hill Model is composed of three sets of styles. The first, Symbols and Their Meanings, contains twenty styles and has to do with reception of incoming information. The second set, Cultural Determinants, contains three styles and relates to outside influences on the value of information, or perception. The third set, Modalities of Inference, contains five styles and relates to preferences in reasoning patterns or problem solving.

The Hill Model assesses 28 cognitive or learning styles in three intensities of preference. Preferences or styles are distinguished from skill level. Students are seen as capable of developing skill levels in areas where their preferences may not match the requirements of the learning environment.

Cognitive Style Mapping is effective in a multi-cultural setting because it assesses a student's preference for attending to stimulus or interaction but it does not specify the content of the stimulus or interaction. Other techniques are needed to assess or define content. Students functioning in a multicultural setting may "miss" an environmental clue because of a low preference for attending to that class of clues or because of unfamiliarity with the content of the clue. Facial expressions or gestures may be missed because of a low preference for attending to facial expressions or because of a low skill level in interpreting facial expressions in the second culture.

Cognitive Style Mapping helps a teacher identify student preferences for learning. That information can then be used by the teacher in operationalizing the techniques for equalizing opportunities in the classroom. For example, when a teacher delves with a student, questions can be rephrased according to the teacher's knowledge of the student's style, to make the question more meaningful, more easily understood. If a question is asked as a categorical question, it can be restated as a contrast or relationship question or restated in terms of the logic involved in the concept.

Teacher Behaviors That Make a Difference (continued)

Learning centers can have more meaning and purpose when developed to meet the learning preferences of students. Instructional materials prepared with specific students in mind support on-task behaviors. Teachers utilizing multiple modes of teaching in class presentations and a variety of teacher initiated learning activities enhance learning when the preferred learning styles of students are taken into consideration.

An example of a set of styles with easy application to classroom settings is the second set of styles, Cultural Determinants. This set contains three styles, A, F, I. Students with a strong preference for peer influence or learning (A) will work better in small group or peer tutoring situations, while students with a strong preference for family or authority figure influence on learning (F) will learn better working directly with the teacher. A third group, with a strong preference for putting things in their own words (I) will learn best if allowed to work independently.

Generally, students have a stronger preference for two of the three styles with one being less preferred. Often an individual will have equal or near equal scores for all three styles. Some individuals experience this as a flexibility in style - an ease of learning in any of the three contexts while others experience this as a need to have all three components present in a learning situation. This latter group often finds school very frustrating, while appearing to be "bright".

While elaborate provisions of alternatives in a classroom will enhance student performance, experience shows that the students awareness alone of his/her own cognitive style increases coping strategies. Fourier's 1980 study indicated that academic achievement increased with disclosure only with no involvement on the part of the instructor.

Components of the Tucson Model focus on integrating the strengths of teachers and students. The format is designed as a coordinated function to improve skills and knowledge related to student achievement. Key to this design is a positive school climate, one focused on goals of the school and facilitated by cooperative efforts of all concerned with education.

The basic premise that what educators do makes a difference is a unifying theme throughout workshop content. Constructive use of learning preference influences the acquisition of knowledge and the student's sense of belonging in the school setting. Teacher expectations and the use of nondiscriminating interactions build competence for students. The Tucson Model for Effective Staff Development is a viable vehicle for skill development that impacts on

Teacher Behaviors That Make a Difference (continued)

student achievement. The model also nurtures the teacher's sense of efficacy and positive professional growth.

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A Brief Guide to Cognitive Style Mapping

HILL MODEL

I. SYMBOLS AND THEIR MEANINGS

Two types of symbols, theoretical (e.g., words and numbers) and qualitative (e.g., sensory, programmatic, and codes), are created and used by individuals to acquire knowledge and derive meaning from their environments and personal experiences. Theoretical symbols differ from qualitative symbols in that the theoretical symbols present to the awareness of the individual something different from that which the symbols are. Words and numbers are examples of theoretical symbols. Qualitative symbols are those symbols which present and then represent to the awareness of the individual that which the symbol is. (Feelings, commitments and values are some examples of the meanings conveyed by the qualitative symbols.)

T(VL)—**Theoretical Visual Linguistics**—ability to find meaning from words you see. A major in this area indicates someone who reads with a better than average degree of comprehension.

T(AL)—**Theoretical Auditory Linguistics**—ability to acquire meaning through hearing spoken words.

T(VQ)—**Theoretical Visual Quantitative**—ability to acquire meaning in terms of numerical symbols, relationships, and measurements.

T(AQ)—**Theoretical Auditory Quantitative**—ability to find meaning in terms of numerical symbols, relationships, and measurements that are spoken.

The five qualitative symbols associated with sensory stimuli are:

Q(A)—**Qualitative Auditory**—ability to perceive meaning through the sense of hearing. A major in this area indicates ability to distinguish between sounds, tones of music, and other purely sonic sensations.

Q(O)—**Qualitative Olfactory**—ability to perceive meaning through the sense of smell.

Q(S)—**Qualitative Savery**—ability to perceive meaning by the sense of taste. Chefs should have highly developed qualtitative olfactory and savory abilities.

Q(T)—**Qualitative Tactile**—ability to perceive meaning by the sense of touch, temperature, and pain.

Q(V)—**Qualitative Visual**—ability to perceive meaning through sight.

The qualitative symbols that are programmatic in nature are:

Q(PF)—**Qualitative Proprioceptive (Fine)**—ability to synthesize a number of symbolic mediations into a performance demanding monitoring of a complex task involving small, or fine, musculature (e.g., playing a musical instrument, typewriting); or into an immediate awareness of a possible set of interrelationships between symbolic mediations, i.e., dealing with "signs."

Q(PG)—**Qualitative Proprioceptive (Gross)**—ability to synthesize a number of symbolic mediations into a performance demanding monitoring of a complex task involving large, or gross, musculature (e.g., throwing a baseball, skiing).

Q(PDF)—**Qualitative Proprioceptive Dextral (Fine)**—a predominance of right-eyed, right-handed and right-footed tendencies (a typically right-handed person) while synthesizing a number of symbolic mediations into a performance demanding monitoring of a complex task involving small, or fine, musculature (e.g., writing right-handed).

Q(PDG)—**Qualitative Proprioceptive Dextral (Gross)**—a predominance of right-eyed, right-handed and right-footed tendencies (a typically right-handed person) while synthesizing a number of symbolic mediations into a performance demanding monitoring of a complex task involving large, or gross, musculature (e.g., throwing a baseball with the right hand).

Q(PKF)—**Qualitative Proprioceptive Kinematics (Fine)**—ability to synthesize a number of symbolic mediations into a performance demanding the use of fine musculature while monitoring a complex physical activity involving motion.

Q(PKG)—**Qualitative Proprioceptive Kinematics (Gross)**—ability to synthesize a number of symbolic mediations into a performance demanding the use of gross musculature while monitoring a complex physical activity involving motion.

Q(PSF)—**Qualitative Proprioceptive Sinistral (Fine)**—a predominance of left-eyed, left-handed and left-footed tendencies (a typically left-handed person) while synthesizing a number of symbolic mediations into a performance demanding monitoring of a complex task involving small, or fine, musculature (e.g., writing left-handed).

Q(PSG)—**Qualitative Proprioceptive Sinistral (Gross)**—a predominance of left-eyed, left-handed and left-footed tendencies (a typically left-handed person) while synthesizing a number of symbolic mediations into a performance demanding monitoring of a complex task involving large, or gross, musculature (e.g., throwing a baseball with the left hand).

Q(PTF)—**Qualitative Proprioceptive Temporal (Fine)**—ability to synthesize a number of symbolic mediations into a performance demanding the use of fine musculature while monitoring a complex physical activity involving timing.

Q(PTG)—**Qualitative Proprioceptive Temporal (Gross)**—ability to synthesize a number of symbolic mediations into a performance demanding the use of gross musculature while monitoring a complex physical activity involving timing.

The remaining ten qualitative symbols associated with cultural codes are defined as:

Q(CEM)—**Qualitative Code Empathetic**—sensitivity to the feelings of others; ability to put yourself in another person's place and see things from his point of view.

Q(CES)—**Qualitative Code Estbetic**—ability to enjoy the beauty of an object or an idea. Beauty in surroundings or a well-turned phrase are appreciated by a person possessing a major strength in this area.

Q(CET)—**Qualitative Code Ethic**—commitment to a set of values, a group of principles, obligations and/or duties. This commitment need not imply morality. Both a priest and a criminal may be committed to a set of values although the "values" may be decidely different.

Q(CH)—**Qualitative Code Histrionic**—ability to exhibit a deliberate behavior, or play a role to produce some particular effect on other persons. This type of person knows how to fulfill role expectations.

Q(CK)—**Qualitative Code Kinesics**—ability to understand, and to communicate by, non-linguistic functions such as facial expressions and motions of the body (e.g., smiles and gestures).

Q(CKH)—**Qualitative Code Kinesthetic**—ability to perform motor skills, or effect muscular coordination according to a recommended, or acceptable, form (e.g., bowling according to form, or golfing).

Q(CP)—**Qualitative Code Proxemics**—ability to judge the physical and social distance that the other person would permit, between oneself and that other person.

Q(CS)—**Qualitative Code Synnoetics**—personal knowledge of oneself.

Q(CT)—**Qualitative Code Transactional**—ability to maintain a positive communicative interaction which significantly influences the goals of the persons involved in that interaction (e.g., salesmanship).

Q(CTM)—**Qualitative Code Temporal**—ability to respond or behave according to time expectations imposed on an activity by members in the role-set associated with that activity.

II. CULTURAL DETERMINANTS

There are three cultural determinants of the meaning of symbols: 1) individuality (I), 2) associates (A), and 3) family (F). It is through these "determinants" that cultural influences are brought to bear by the individual on the meanings of symbols.

I—**Individuality**—Uses one's own interpretation as an influence on meanings of symbols.

A—**Associates**—Symbolic meanings are influenced by one' peer group.

F—**Family**—Influence of members of the family, or a few close personal friends, on the meanings of symbols.

III. MODALITIES OF INFERENCE

The third set of the cartesian product indicating cognitive style includes elements which indicate the individual's modality of inference, i.e., the form of inference he tends to use.

M—**Magnitude**—a form of "categorical reasoning" that utilizes norms or categorical classifications as the basis for accepting or rejecting an advanced hypothesis. Persons who need to define things in order to understand them reflect this modality.

D—**Difference**—This pattern suggests a tendency to reason in terms of one-to-one contrasts or comparisons of selected characteristics or measurements. Artists often posses this modality as do creative writers and musicians.

R—**Relationship**—this modality indicates the ability to synthesize a number of dimensions or incidents into a unified meaning, or through analysis of a situation to discover its component parts. Psychiatrists frequently employ the modality of relationship in the process of psychoanalyzing a client.

L—**Appraisal**—is the modality of inference employed by an individual who uses all three of the modalities noted above (M, D, and R), giving equal weight to each in his reasoning process. Individuals who employ this modality tend to analyze, question, or, in effect, appraise that which is under consideration in the process of drawing a probability conclusion.

X—**Deductive**—indicates deductive reasoning, or the form of logical proof used in geometry or that employed in syllogistic reasoning.